

From bob145 at suddenlink.net Sun Mar 2 20:23:36 2014
From: bob145 at suddenlink.net (Bob Jackson)
Date: Sun, 2 Mar 2014 19:23:36 -0600
Subject: [BoatAnchors] Hallicrafters S-76 Knobs
Message-ID: <5E895DD93D114CA9B572DFB4DC20602D@c1408123a>

Thanks to Joe Sloss (K7MKS), I'll have three of the small, skirted knobs for my S-76. I still need two more to complete the set. Any help will be much appreciated.

Thanks again, Joe!

73 to all,

Bob AG5X

From arc5 at ix.netcom.com Mon Mar 3 11:07:09 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 3 Mar 2014 10:07:09 -0600
Subject: [BoatAnchors] Connector Help
Message-ID: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>

Please look at this connector, which is Bakelite or black plastic and has no back shell:

http://home.netcom.com/~arc5/IMG_2887.JPG

What is the designation of this type connector?

A friend needs the 6-pin version (has a center pin).
Where can he find one?

Thanks,
David S.

From gumbear at pacbell.net Mon Mar 3 14:33:42 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 3 Mar 2014 11:33:42 -0800
Subject: [BoatAnchors] Connector Help
In-Reply-To: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>
References: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>
Message-ID: <5EB86EC85854453392DE50029036E3E2@KB6NAX>

David, the six pin connector was used for connecting power and speakers to automobile four and eight track cassette decks. Back when vacuum was surrendering to sand. Probably of Japanese design.

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

> Please look at this connector, which is Bakelite
or black plastic and has no back shell:

http://home.netcom.com/~arc5/IMG_2887.JPG

What is the designation of this type connector?

A friend needs the 6-pin version (has a center pin).
Where can he find one?

Thanks,
David S.

From gumbear at pacbell.net Mon Mar 3 20:23:30 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Mon, 3 Mar 2014 17:23:30 -0800
Subject: [BoatAnchors] Connector Help
In-Reply-To: <5315264A.3000707@earthlink.net>
References: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>
<5EB86EC85854453392DE50029036E3E2@KB6NAX> <5315264A.3000707@earthlink.net>
Message-ID: <34D477C8D67B47E681FEC9C5C0B9C5F0@KB6NAX>

I stand corrected, Scott. I now remember seeing that type connector on
ancient US made stuff. The sockets on equipment were commonly phenolic
wafer construction. Or am I mixing things up again (senilic brains would
like to know)? ;:-)

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

> This is an Amphenol design, and they came in 3 through 6 (maybe 7?)
pins. Look in an old catalog to spot the model number, and prospect from
there.

/scott

From k1lky68 at gmail.com Mon Mar 3 21:09:35 2014
From: k1lky68 at gmail.com (Roy Morgan)
Date: Mon, 3 Mar 2014 21:09:35 -0500
Subject: [BoatAnchors] Connector Help
In-Reply-To: <34D477C8D67B47E681FEC9C5C0B9C5F0@KB6NAX>
References: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>
<5EB86EC85854453392DE50029036E3E2@KB6NAX> <5315264A.3000707@earthlink.net>
<34D477C8D67B47E681FEC9C5C0B9C5F0@KB6NAX>
Message-ID: <655E1697-A6E9-43AC-AE8B-0DBCFA BDDCDF@gmail.com>

On Mar 3, 2014, at 8:23 PM, Arden Allen <gumbear at pacbell.net> wrote:

> I stand corrected, Scott. I now remember seeing that type connector on ancient US made stuff. The sockets on equipment were commonly phenolic wafer construction. Or am I mixing things up again (senilic brains would like to know)? ;-)

Arden

I think you have it right. (Not to worry about senilic brains - see Morgans Law of Aging Minds below.)

I remember that sort of connector used on consumer radios of some years ago - maybe home console radios for speaker connections.

The picture shows a hint of a number or marking. That may help.

Morgan?s Law of Aging Minds:

As we grow older, we gain more wisdom.
The wisdom pushes out the memories.

Roy

Roy Morgan
RoyMorgan at alum.mit.edu
K1LKY Since 1958

From infomet at embarqmail.com Mon Mar 3 21:32:29 2014
From: infomet at embarqmail.com (Wilson)
Date: Mon, 3 Mar 2014 21:32:29 -0500

Subject: [BoatAnchors] Connector Help
In-Reply-To: <mailman.57.1393898991.241.boatanchors@theporch.com>
References: <mailman.57.1393898991.241.boatanchors@theporch.com>
Message-ID: <EB1B1DF579D047948CB690A2227784E5@WilsonPC>

It looks like various connectors found in old BC radios, like speaker connections. Also, for batteries, which had the phenolic phemale in the top of the battery, under the paper.

Wilson
W4BOH

From spr at earthlink.net Mon Mar 3 21:14:37 2014
From: spr at earthlink.net (Scott Robinson)
Date: Mon, 03 Mar 2014 18:14:37 -0800
Subject: [BoatAnchors] Connector Help
In-Reply-To: <34D477C8D67B47E681FEC9C5C0B9C5F0@KB6NAX>
References: <7BFBC24B18504C998C1A8B8BD2E5B0C7@DaddyPC>
<5EB86EC85854453392DE50029036E3E2@KB6NAX> <5315264A.3000707@earthlink.net>
<34D477C8D67B47E681FEC9C5C0B9C5F0@KB6NAX>
Message-ID: <5315370D.3000904@earthlink.net>

Hi Arden,

The Amphenol-built sockets were molded like the plug illustrated, but wafer type sockets existed as well.

/scott

On 3/3/14 5:23 PM, Arden Allen wrote:

> I stand corrected, Scott. I now remember seeing that type connector on
> ancient US made stuff. The sockets on equipment were commonly phenolic
> wafer construction. Or am I mixing things up again (senilic brains
> would like to know)? ;-)

>

> Arden Allen

> KB6NAX

>

> Adopt a shelter or rescue dog

> and make a friend for life =:-)

>

>> This is an Amphenol design, and they came in 3 through 6 (maybe 7?)

> pins. Look in an old catalog to spot the model number, and prospect from
> there.
>
> /scott
>
>
>

From wb0eq at yahoo.com Wed Mar 12 13:24:42 2014
From: wb0eq at yahoo.com (John Sehring)
Date: Wed, 12 Mar 2014 10:24:42 -0700 (PDT)
Subject: [BoatAnchors] Resource
Message-ID: <1394645082.364.YahooMailNeo@web140606.mail.bf1.yahoo.com>

An amazing collection of references & reviews of vacuum tube literature, esp. 2nd
line of this page (AN 0.4):

http://www.pearl-hifi.com/06_Lit_Archive/Lit_Archive.html#Index

?
--John Sehring ?VE6EQR-WB0EQ??nr Calgary, Alberta, Canada

From bob145 at suddenlink.net Thu Mar 13 13:57:21 2014
From: bob145 at suddenlink.net (Bob Jackson)
Date: Thu, 13 Mar 2014 12:57:21 -0500
Subject: [BoatAnchors] NC-200
Message-ID: <21292AF2749449618434E15F7688298B@Ladybug>

All -

Anyone know of a well-experienced BA restorer willing to take on an NC-200. It's
already been very nicely re-capped but the PS electrolytics are shot. Cabinet
paint and knob lettering also need help. Thanks for any help.

73 to all,

Bob AG5X

From kd5byb at kd5byb.net Fri Mar 14 20:39:55 2014
From: kd5byb at kd5byb.net (Ben Hall)
Date: Fri, 14 Mar 2014 19:39:55 -0500
Subject: [BoatAnchors] BC-1206-B - schematic?
Message-ID: <5323A15B.9090407@kd5byb.net>

Good evening all,

I had sworn that I was not going to buy any more Boatanchors until I had finished fixing the units currently in line for repair. While the RBA-5 is almost finished, its RBA and RBB friends are in line, as is a WS-19, and a couple of power supply projects.

I broke my promise last weekend - picked up a BC-1206-B on the e-place for the princely sum of \$6 plus shipping. The BC-1206 family had been calling my name for some time and I couldn't resist.

It arrived this afternoon. The sheet metal has a few dents and wrinkles, and it has a few plastic-covered wires that may be repairs or modifications. I am suspecting repairs, as none of the thread sealant on any of the adjustments has been broken.

This is one of the earlier BC-1206's, having a pair of 25L6's. Looking online, the BC-1206-B model is reputed to be electrically similar (if not the same) as the Detrola model 438 beacon receiver.

Anyone got a schematic? While this is not a complicated set and I could probably draw the schematic in an afternoon...I'd like to avoid that if I can. :)

thanks much and 73,
ben, kd5byb

From oldradio at comcast.net Sat Mar 15 17:44:42 2014
From: oldradio at comcast.net (oldradio at comcast.net)
Date: Sat, 15 Mar 2014 21:44:42 +0000 (UTC)
Subject: [BoatAnchors] [AWA] FS - Johnson Viking Navigator [4 Attachments]
In-Reply-To: <432590529.10210173.1394919190002.JavaMail.root@comcast.net>
Message-ID: <736645206.10212159.1394919882857.JavaMail.root@comcast.net>

AWA

I can bring it to the CC-AWA meet in NC on Thursday-Friday. \$500. firm Please email to me directly.

oldradio at comcast.net

I have a nice one, totally as I found it. Meter face need replacing, and I have a high res file you can print and fasten over the old one. (peeling paint)

73, John Dilks, K2TQN

-.-

From arc5 at ix.netcom.com Thu Mar 20 12:07:37 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Thu, 20 Mar 2014 11:07:37 -0500
Subject: [BoatAnchors] ***JUNK MAIL*** Strange Sound On Air- Data Burst?
Message-ID: <96FA6DE4EC6642E6B1A4B156555A6842@DaddyPC>

For years I've occasionally heard this sound on the bands:

<http://home.netcom.com/~arc5/pulses.wav>

It is not swept; it's specific to a frequency.
Often, there is only one set of two pulses.
Sometimes there are three sets, other times several more.

I've been told these are data bursts sent from one RDF site to another, which replies. These bursts are used to adjust the site calibration vs. real-time propagation, giving a more accurate RDF "fix." I think this was the person's theory, rather than any certain knowledge.

Does anyone have an idea?

73 DE Dave AB5S

From k0dan at comcast.net Thu Mar 20 13:32:08 2014
From: k0dan at comcast.net (K0DAN)
Date: Thu, 20 Mar 2014 12:32:08 -0500
Subject: [BoatAnchors] [Boatanchors] [Milsurplus] Strange Sound On Air- Data Burst?
In-Reply-To: <8430.12.226.214.5.1395334285.squirrel@popaccts.quikus.com>
References: <96FA6DE4EC6642E6B1A4B156555A6842@DaddyPC>
<8430.12.226.214.5.1395334285.squirrel@popaccts.quikus.com>
Message-ID: <D985623B01E745C88467536AD14D193B@K0DANHamshack>

There's a new one (new to me anyway) which moves around 28 Mhz and occupies 50+ khz during each transmission. Transmissions last a few seconds, then appear to be answered on another frequency, slightly high or lower.

A screenshot can be viewed here:
https://www.dropbox.com/s/atmqsoqe4zf22m9/2014-03-20_122037.jpg

-----Original Message-----

From: J. Forster
Sent: March 20, 2014 11:51
To: David Stinson
Cc: boatanchors at mailman.qth.net ; boatanchors at theporch.com ;
milsurplus at mailman.qth.net
Subject: Re: [Boatanchors] [Milsurplus] Strange Sound On Air- Data Burst?

There are sounders used to check propagation between sites. They send a bit, measure S/N, skip to a new frequency, and repeat. Most often used for things like embassy HF links, I think.

Maybe one of those?

-John

=====

> For years I've occasionally heard this sound on the bands:
>
> <http://home.netcom.com/~arc5/pulses.wav>
>
> It is not swept; it's specific to a frequency.
> Often, there is only one set of two pulses.
> Sometimes there are three sets, other times several more.
>
> I've been told these are data bursts sent from one RDF site
> to another, which replies. These bursts are used to adjust
> the site calibration vs. real-time propagation, giving a more
> accurate RDF "fix." I think this was the person's theory,
> rather than any certain knowledge.
>
> Does anyone have an idea?
>
> 73 DE Dave AB5S
>
> -----
> Milsurplus mailing list
> Home: <http://mailman.qth.net/mailman/listinfo/milsurplus>
> Help: <http://mailman.qth.net/mmfaq.htm>
> Post: <mailto:Milsurplus at mailman.qth.net>
>
> This list hosted by: <http://www.qsl.net>
> Please help support this email list: <http://www.qsl.net/donate.html>
>
>

Boatanchors mailing list

Home: <http://mailman.qth.net/mailman/listinfo/boatanchors>

Help: <http://mailman.qth.net/mmfaq.htm>

Post: [mailto:Boatanchors at mailman.qth.net](mailto:Boatanchors@mailman.qth.net)

List Administrator: Duane Fischer, W8DBF

** For Assistance: [dfischer at usol.com](mailto:dfischer@usol.com) **

This list hosted by: <http://www.qsl.net>

Please help support this email list: <http://www.qsl.net/donate.html>

From arc5 at ix.netcom.com Thu Mar 20 13:34:09 2014

From: arc5 at ix.netcom.com (David Stinson)

Date: Thu, 20 Mar 2014 12:34:09 -0500

Subject: [BoatAnchors] [Milsurplus] Strange Sound On Air- Data Burst?

In-Reply-To: <20140320172945.Z0156.15567.root@cdptpa-web26>

References: <20140320172945.Z0156.15567.root@cdptpa-web26>

Message-ID: <592338BEA377478B8858FD46001245BB@DaddyPC>

----- Original Message -----

From: <joldenburg2 at new.rr.com>

Subject: Re: [Milsurplus] Strange Sound On Air- Data Burst?

> Sounds like a chirpsounder:

>

> <http://en.wikipedia.org/wiki/Ionosonde>

>

Could indeed be, but I tend to hear this wherever hams or CBers
are getting, ummm... "Froggy" ;-)

From spr at earthlink.net Wed Mar 19 15:34:47 2014

From: spr at earthlink.net (Scott Robinson)

Date: Wed, 19 Mar 2014 12:34:47 -0700

Subject: [BoatAnchors] Wonderful video of Colossus,
the world's more or less first electronic digital computer, in operation!

Message-ID: <5329F157.10905@earthlink.net>

Folks,

For those not familiar with WWII decryption history, Colossus was built to decode the German High Command codes, a cut or three above the Enigma used for ordinary military comx, which had already been decoded with a mechanical computer called the Bombe. Eisenhower said that the work of the British decoders shorted the war by 2 to 3 years! The NMoC has a working Colossus, and this is a demo of it in context.

/scott

On 5 February 2014, The (British) National Museum of Computing celebrated the 70th anniversary of the world's first electronic computer.

Here is the 51-minute video of the event and the re-enactment performed in front of Colossus veterans, their relatives and guests:

<<http://youtu.be/QcaHpvznC7g>>

We hope you enjoy it.

Dr Stephen Fleming
Palam Communications
11 Byfields Road Kingsclere
Newbury RG20 5TG UK

t +44 (0)1635 299116
e [stephen.fleming at palam.co.uk](mailto:stephen.fleming@palam.co.uk)

And from me, Scott, in the USA:

Note that you get to see several racks full of RCA AR-88 receivers, as well as Colossus, all tubes all the time.

BTW, they need more 807s. If you have some to spare, email me. What I do is receive them, test them in the usual Hickok way, and measure the H-K leakage (50VDC, 5 uA, which works out to 10 Megs), a special Colossus requirement. About half of them pass that second test, and those that don't I can send back to you if you like. When I get a bunch (about 20) together, I send them to the UK. I have sent them 35 so far. I think the machine uses 50 of them, so more would be welcome.

Keep 'em glowing!

Scott Robinson

From knjhanlon at msn.com Fri Mar 21 14:27:52 2014
From: knjhanlon at msn.com (JAMES HANLON)
Date: Fri, 21 Mar 2014 12:27:52 -0600
Subject: [BoatAnchors] Crystal Phasing per QST
Message-ID: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>

Y'all,

I wonder if anyone has read the article, "Crystal Phasing," in the April QST? I tried the instructions under "Adjusting the Crystal Resonator Filter" several different ways on several receivers (NC-200, NC-173 and SX-28) and had absolutely no success adjusting the filter. I've been using boatanchor receivers with crystal filters since 1950, and I know how to properly adjust a crystal filter, but I decided to follow the QST instructions to see what they would result in. So far as I can tell, they would thoroughly mislead and frustrate anyone who picked up a receiver with a crystal filter and tried to make it work.

Did I miss something? Should I write to QST, and perhaps send them an article about the proper functioning and adjustment of a Crystal Filter?

Jim, W8KGI

From beckrep at citlink.net Fri Mar 21 14:54:21 2014
From: beckrep at citlink.net (Paul Beckwith)
Date: Fri, 21 Mar 2014 11:54:21 -0700
Subject: [BoatAnchors] Crystal Phasing per QST
In-Reply-To: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
Message-ID: <mailman.1242.1395428083.241.boatanchors@theporch.com>

Jim & crew,

Yes, you should write to them! I had the same opinion when reading the article. I shall refrain from further negative comments.

73's de Paul K2LMQ

At 11:27 AM 3/21/2014, JAMES HANLON wrote:

>Y'all,

>

>I wonder if anyone has read the article, "Crystal Phasing," in the
>April QST? I tried the instructions under "Adjusting the Crystal
>Resonator Filter" several different ways on several receivers
>(NC-200, NC-173 and SX-28) and had absolutely no success adjusting
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>
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>an article about the proper functioning and adjustment of a Crystal Filter?
>
>Jim, W8KGI
>

From w2dgb at ptd.net Fri Mar 21 15:10:16 2014
From: w2dgb at ptd.net (Bill Fizette)
Date: Fri, 21 Mar 2014 15:10:16 -0400
Subject: [BoatAnchors] Crystal Phasing per QST
In-Reply-To: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
Message-ID: <5659EBCEAC2A4B2883EAF4B3D99C1366@BillPC>

Interesting, Jim.

Perhaps a phone call to Steve Ford. Written messages will sometimes be read and discarded, where as a phone call is an "in your face" situation.

I can't help with the technology/engineering here, but am most interested. Please keep me in the loop.

73, Bill w2dgb

----- Original Message -----

From: "JAMES HANLON" <knjhanlon at msn.com>
To: "boatanchors" <boatanchors at theporch.com>
Sent: Friday, March 21, 2014 2:27 PM
Subject: [BoatAnchors] Crystal Phasing per QST

> Y'all,
>
> I wonder if anyone has read the article, "Crystal Phasing," in the April
> QST? I tried the instructions under "Adjusting the Crystal Resonator
> Filter" several different ways on several receivers (NC-200, NC-173 and
> SX-28) and had absolutely no success adjusting the filter. I've been
> using boatanchor receivers with crystal filters since 1950, and I know how
> to properly adjust a crystal filter, but I decided to follow the QST

> instructions to see what they would result in. So far as I can tell, they
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> with a crystal filter and tried to make it work.
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> Did I miss something? Should I write to QST, and perhaps send them an
> article about the proper functioning and adjustment of a Crystal Filter?
>
> Jim, W8KGI
>
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>
>

From thompson at mindspring.com Fri Mar 21 21:39:43 2014
From: thompson at mindspring.com (David Thompson)
Date: Fri, 21 Mar 2014 21:39:43 -0400
Subject: [BoatAnchors] Crystal Phasing per QST
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
Message-ID: <000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>

I seem to recall ARRL mentioned that the April First gag was coming back.
Not Larson E. Rapp tho.

Remember this is the April issue. I always look for the fools article.
They can get very good at hiding it.

73 Dave K4JRB

From gumbear at pacbell.net Fri Mar 21 22:27:34 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Fri, 21 Mar 2014 19:27:34 -0700
Subject: [BoatAnchors] Crystal Phasing per QST
In-Reply-To: <000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
<000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
Message-ID: <064F7CF2207843B894B161324AB8631F@KB6NAX>

I always thought the April 1st gags in QST although meant in good fun were a
bit childish.

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

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Not Larson E. Rapp tho.

Remember this is the April issue. I always look for the fools article.
They can get very good at hiding it.

73 Dave K4JRB

From W0E0M at aol.com Fri Mar 21 22:30:41 2014
From: W0E0M at aol.com (W0E0M at aol.com)
Date: Fri, 21 Mar 2014 22:30:41 -0400 (EDT)
Subject: [BoatAnchors] Crystal Phasing per QST
Message-ID: <b4326.183b1372.405e4fd1@aol.com>

Check the article at the bottom of page 45

In a message dated 3/21/2014 6:52:46 P.M. Pacific Daylight Time,
thompson at mindspring.com writes:

I seem to recall ARRL mentioned that the April First gag was coming back.
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73 Dave K4JRB

BoatAnchors mailing list
BoatAnchors at theporch.com
<https://minime.theporch.com/mailman/listinfo/boatanchors>

From w4rl at bellsouth.net Fri Mar 21 22:32:48 2014
From: w4rl at bellsouth.net (Robert)
Date: Fri, 21 Mar 2014 21:32:48 -0500

Subject: [BoatAnchors] Crystal Phasing per QST
In-Reply-To: <000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
<000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
Message-ID: <532CF650.10902@bellsouth.net>

"Omnidirectional Hentenna" page 48. If it isn't it should be.

Oh is Paul N1II getting 'crafty'.

My favorite still is "The Beer Can Special". Yall remember that article?

What were yall's favorites. I'd love to hear them.

BTW anybody got a 21 step attenuator for sale?

Robert W4RL Pensacola

On 3/21/2014 8:39 PM, David Thompson wrote:

> I seem to recall ARRL mentioned that the April First gag was coming
> back. Not Larson E. Rapp tho.

>

> Remember this is the April issue. I always look for the fools
> article. They can get very good at hiding it.

>

> 73 Dave K4JRB

>

>

> -----
> BoatAnchors mailing list

> BoatAnchors at theporch.com

> <https://minime.theporch.com/mailman/listinfo/boatanchors>

>

From bill at iaxs.net Sat Mar 22 02:12:19 2014
From: bill at iaxs.net (Bill Hawkins)
Date: Sat, 22 Mar 2014 01:12:19 -0500
Subject: [BoatAnchors] Crystal Phasing per QST (SWOT)
In-Reply-To: <532CF650.10902@bellsouth.net>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
<000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
<532CF650.10902@bellsouth.net>
Message-ID: <3FE6FF7CAF8A4A0BBB22CC7F5D94A516@system071>

This is sortof way off topic (SWOT) but some of you have some familiarity with read-only memories.

I dimly recall an electronic design magazine publishing an April article on a write-only memory, possibly by Signetics.

Dim memories can now be aided by the likes of Google finding historical articles on the subject.

The Wikipedia article is a hoot, if you can stand sand state devices. The year was 1972.

An overworked Signetics engineer published a catalog spec sheet for a WOM. Management did not notice until orders began coming in.

I'm sure vacuum tubes were involved in there somehow.

Bill Hawkins

From wb1cmg at gmail.com Sat Mar 22 11:19:29 2014
From: wb1cmg at gmail.com (David Upton)
Date: Sat, 22 Mar 2014 11:19:29 -0400
Subject: [BoatAnchors] April Fools articles in QST was Crystal Phasing
Message-ID: <CAfhJE1AU_DDgusbK3VLnYqcfZCXH9b39ssTzKttuajzUtuDh1w@mail.gmail.com>

Best one I ever saw was the RASER in the early 70s. Making Yagi antenna elements out of silvered ruby rods with pictures of a ruby growing set-up. I thought about that one quite awhile.....

David, WB1CMG

From garygarlic at earthlink.net Sat Mar 22 11:59:46 2014
From: garygarlic at earthlink.net (Gary Woods)
Date: Sat, 22 Mar 2014 11:59:46 -0400
Subject: [BoatAnchors] Crystal Phasing per QST (SWOT)
In-Reply-To: <3FE6FF7CAF8A4A0BBB22CC7F5D94A516@system071>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
<000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
<532CF650.10902@bellsouth.net> <3FE6FF7CAF8A4A0BBB22CC7F5D94A516@system071>
Message-ID: <9ocri9p9e0o89tc6c7vef7cn3vem45uijp@4ax.com>

On Sat, 22 Mar 2014 01:12:19 -0500, you wrote:

>I dimly recall an electronic design magazine publishing an April article
>on a write-only memory, possibly by Signetics.

I have that datasheet somewhere. My favorite is the "chip destruct" pin,

activated by 110VAC! You hook 110AC to an inverter, then to the chip destruct pin, so the logical function is "not destruct" so the device never fails.

--

Gary Woods AKA K2AHC- PGP key on request, or at home.earthlink.net/~garygarlic
Zone 5/4 in upstate New York, 1420' elevation. NY WO G

From 1oldlens1 at ix.netcom.com Fri Mar 21 23:51:36 2014
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Fri, 21 Mar 2014 20:51:36 -0700
Subject: [BoatAnchors] Crystal Phasing per QST
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
Message-ID: <B7C4AD9BAABF4658A7280AF9773FC4C3@VALUED20606295>

----- Original Message -----

From: "JAMES HANLON" <knjhanlon at msn.com>
To: "boatanchors" <boatanchors at theporch.com>
Sent: Friday, March 21, 2014 11:27 AM
Subject: [BoatAnchors] Crystal Phasing per QST

> Y'all,
>
> I wonder if anyone has read the article, "Crystal
> Phasing," in the April QST? I tried the instructions
> under "Adjusting the Crystal Resonator Filter" several
> different ways on several receivers (NC-200, NC-173 and
> SX-28) and had absolutely no success adjusting the filter.
> I've been using boatanchor receivers with crystal filters
> since 1950, and I know how to properly adjust a crystal
> filter, but I decided to follow the QST instructions to
> see what they would result in. So far as I can tell, they
> would thoroughly mislead and frustrate anyone who picked
> up a receiver with a crystal filter and tried to make it
> work.
>
> Did I miss something? Should I write to QST, and perhaps
> send them an article about the proper functioning and
> adjustment of a Crystal Filter?
>
> Jim, W8KGI
>

I scanned over this article but have not read it thoroughly. There are two distinct variations of single

crystal filters found in older receivers and some variations of those. The original was based on work done by James J. Lamb and patented by him in USP 2054757. This is the filter found in National and Hallicrafters receivers and several others. This filter produces a very sharp selectivity curve and has a tunable null but the adjustment of either bandwidth or null changes its resonance so it requires some back and forth adjustment to get right. They really must be set up for a given bandwidth and left alone. A second type of crystal filter was invented and patented by Donald K. Oram of Hammarlund USP 2222043. The advantage of this filter is that the bandwidth can be adjusted over a rather wide range without affecting the center tuning or gain of the filter. In addition the phasing control is a dual type capacitor such that as the compensating capacitance for the crystal holder is changed the capacitance across the coupling transformer secondary is also changed so that the total remains the same. As a result the filter is not detuned by adjusting the null. This filter was introduced in the Hammarlund HQ-120-X and later adopted for use in the Super-Pro. This same filter is also used in the SP-600-JX and, with slight variation, in the Collins 75A and 51J series receivers, and in the TMC GPR-90 and probably others. A variation is found in the RCA AR-88 which uses a tapped loading coil with separate capacitors for each bandwidth to maintain center frequency as bandwidth is changed but does not use the balanced null capacitor. As a result while the existing capacitor can be used to get a null its not a very good one and does change the center frequency somewhat. This circuit is also used in the RCA CR-88 where the null or phasing control is brought out the front panel but is still the same circuit and not equal to the Hammarlund filter.

The procedure for adjusting these filters is all somewhat different. The easiest to adjust is the Hammarlund filter because it has the least interaction between adjustments. Essentially, the driving or coupling transformer is peaked at the crystal resonance frequency (the entire IF should be peaked at this frequency) and the loading coil is then adjusted for _maximum_ bandwidth with the phasing capacitor centered. In the Lamb filter the bandwidth and null adjustments interact with the peaking adjustments. It takes some practice to get them right. Even though the bandwidth is supposed to be adjustable it really isn't without upsetting other adjustments. There are several variations on this filter, some are better than others. In some cases, such as the fliter in the RCA AR-77, there appears to be an attempt to skirt the Lamb patent. I have no idea of how well or badly this works.

Generally, the handbooks for Hallicrafters and National have reasonably good procedures for their filters.

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From ranickel at comcast.net Sat Mar 22 13:09:30 2014
From: ranickel at comcast.net (Robert Nickels)
Date: Sat, 22 Mar 2014 12:09:30 -0500
Subject: [BoatAnchors] Crystal Phasing per QST (SWOT)
In-Reply-To: <9ocri9p9e0o89tc6c7vef7cn3vem45uijp@4ax.com>
References: <BLU184-W2DCBE23572DA9A8479055A0790@phx.gbl>
<000a01cf456f\$a729e1e0\$fe5d4d0c@yourxb2x7j77gn>
<532CF650.10902@bellsouth.net> <3FE6FF7CAF8A4A0BBB22CC7F5D94A516@system071>
<9ocri9p9e0o89tc6c7vef7cn3vem45uijp@4ax.com>
Message-ID: <532DC3CA.5070108@comcast.net>

On 3/22/2014 10:59 AM, Gary Woods wrote:
> My favorite is the "chip destruct" pin, activated by 110VAC!
Gary, you need to make sure those circuits are properly protected - use the Little Gem Fuse Tester to be sure ;-)

http://archive.org/stream/73-magazine-1968-04/04_April_1968#page/n16/mode/1up

73, Bob W9RAN

From smithab11 at comcast.net Mon Mar 24 11:51:42 2014
From: smithab11 at comcast.net (B. Smith)
Date: Mon, 24 Mar 2014 11:51:42 -0400
Subject: [BoatAnchors] Vibrator Base Diagrams Needed
Message-ID: <5330548E.8000104@comcast.net>

Need vibrator base diagrams:
Mallory G1801S 12 volt 5 pin. Label says "replacement"
Mallory 1701A 12 volt 7 pin

73
k4che

From bkemp at bobkemp.com Wed Mar 26 20:37:35 2014
From: bkemp at bobkemp.com (bkemp at bobkemp.com)
Date: Wed, 26 Mar 2014 19:37:35 -0500
Subject: [BoatAnchors] tubes for sale & Collins 35C-2 filter
Message-ID: <6D05AC76C5754ABDB31FD91C7DF40C69@Bob>

Have a few tubes for sale: Probably pulls
JAN 7034/ 4X150A (2 of them)
4X250B with ceramic ring 8k-606 (1)
4-65A (2 of them) - look new but not in original packaging!
Make an offer..., hate to throw them.
Have a Collins 35C-2 low pass filter \$28.00 shipped (kind of heavy)
Bob
wa0vrc

Bob Kemp
651-764-4788

From arc5 at ix.netcom.com Thu Mar 27 07:58:01 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Thu, 27 Mar 2014 06:58:01 -0500
Subject: [BoatAnchors] ***JUNK MAIL*** CE-10A Info Needed
Message-ID: <28D4C102FCB141C4B6AD0B88BF5212A2@DaddyPC>

I got a question in the mail.
Don't know anything about Central Electronics,
but I know some people smarter than me who do:

"Can u shed any lite on method to run vfo into a
Central Electronics 10A without using the
built in 9 mhz mixer / oscillator ?"

From kd5byb at kd5byb.net Sat Mar 29 11:01:20 2014
From: kd5byb at kd5byb.net (Ben Hall)
Date: Sat, 29 Mar 2014 10:01:20 -0500
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
Message-ID: <5336E040.5090802@kd5byb.net>

Good morning all,

A couple of months ago, I shared several photos of a AC board adapter
that would hold thru-hole electrolytic capacitors to replace a failed
multi-section electrolytic capacitor.

Several of the many responses noted that an issue with modern

electrolytics is that the ripple current rating / equivalent series resistance (ESR) could be exceeded in boatanchor filter capacitor service.

This started me down several months of on-and-off study of modern capacitors, methods/formulas for estimating ripple current in filter service, playing with various power supply circuits using Power Supply Unit Designer II, finding equations to convert from dissipation factor to ESR, etc...

Unfortunately, I confirmed that while the PCB adapters worked well mechanically...to get the caps physically small enough so that they fit the board/space available, the ripple current ratings also shrank to the point where in cap-input filter service, it wasn't hard to exceed the ripple current rating.

Another reply suggested using film capacitors in power supply service vice electrolytics. About two months ago, a box of 500VDC film caps of 15uF rating were delivered to the office. While I didn't order them, one of the EE's did, they *immediately* grabbed my attention. :)

Turns out that Panasonic makes a large range of film caps in their EZPE series of interest. Zipping thru the datasheet...you can get these all the way from 10uF at 500VDC all the way up to 25uF at 1300 VDC! The allowable ripple current is rated up to tens of amps, which is enormous compared to electro's. They are *not cheap* - a 15uF at 500VDC is just over \$6, while a 25uF at 1300 VDC will run just over \$15. But...then again, they probably are not that much more than a similar electro caps.

Unfortunately, they are designed for PCB mounting, so they have short little leads that will require the addition of wire for Boatanchor service.

At the last Huntsville Hamfest, a table a couple of rows away from mine had some of what I thought were motor run capacitors. Looking at the labels on them, they were for lighting service, and were 40uF at 1,100 VDC. For a buck each...I bought them. After some research, it seems that there are high intensity discharge lighting systems that use these.

The ones I has bought were marked TWR Lighting and a quick websearch noted that TWR is a manufacturer of high-intensity aviation lighting systems.

(Side note: you'll note I am ignoring motor-start capacitors in this discussion. They are only used upon motor start-up, and it seems that they are *not* designed for continuous service.)

As I noted above, the TWR cap looks just like a motor run capacitor. Aluminum can, faston-terminals, cylindrical form factor, etc... So I got to thinking - could a motor run capacitor be used in tube power supply service?

(Side note: I did set up several of these TWR Lighting caps in a reforming/leakage test setup. Leakage was not measurable up to 400VDC, which is the limit of my power supply.)

Searching around the web, I came across many tube audio sites where people were using AC-rated motor-run capacitors as DC filter capacitors.

There was some question as to the DC voltage rating of an AC rated capacitor. Many postulated that the DC voltage rating would be the peak voltage rating of the corresponding AC RMS voltage rating. So a 440 VAC capacitor should withstand a peak voltage of 622 volts or so. Makes sense.

(Side note: I did get many a laugh over how people discussed the sound of these capacitors. "Has more attack, the music has more presence, better soundstage," etc... On the other hand, I have a real hard time when I drink wine or Scotch to find all the flavor components the reviewers note: "notes of smoke, apricot, leather", etc... So perhaps I'm just not cultured enough to notice either?) ;)

Again, searching around the web, I did find some motor-run capacitors that were dual rated. A typical rating would be 440VAC / 1000VDC. This is considerably more than the RMS to peak rating discussed in the previous paragraph. While I have *not* found a reason for this discrepancy, I figure that this is headroom for spikes and other nastiness found on the AC mains, while the DC rating is just that - a DC rating.

These motor-run capacitors have ripple current ratings of tens of amps, exceeding the Panasonic film caps, and vastly exceeding commonly available electro's.

While I mentioned ESR earlier, I haven't discussed that yet. Many moons ago I bought an "ESR Tester" off e-swamp shipped direct from China. There are tons of them for sale, the one I bought tests ESR, inductance, and capacitance. I think it does resistance too, but I've never used it for that. It seems to work okay. On new caps purchased from Mouser et al, the readings I get are consistent with what is listed in the datasheet.

I've compared ESR readings (taken with the tester) across various samples of caps in the shack. The TWR Lighting cap comes in at 0.3 ohms, a new Nichicon 47uF electro comes in at 0.8 ohms, and a used 32uF cap from a Wireless Set 19 power supply comes in at 2 ohms. I don't have one of the Panasonic EZPE series caps to try it on, but a 3uF Aerovox 400VDC poly-film cap also comes in at 0.3 ohms, same as the TWR Lighting capacitor.

While electrolytics do fail over time and this is a known phenomena (drying out?), I have not come across much discussion of these motor-run capacitors failing over time, and when they fail, what the failure mode

is. But, I know that they *do fail*, as I've replaced several in my heat pump over the last 11 years.

Many of them are "protected", having a mechanism that disconnects the guts of the capacitor from the voltage source if pressure inside the cap exceeds some value. So I suspect the failure mode is degradation of the insulator between the foils, leading to increased leakage, the leakage leads to heating, the heating leads to internal pressure build-up and either activation of the protection mechanism or, as I've seen on some of the audio sites, leaking oil.

I do plan to try some of these out in BA power supply applications. Last night I placed an order for several motor-run capacitors in the 40uF, 440VAC range. For BA B+ around 400 VDC, I figure I have some safety margin.

I'll let folks know how they work out.

thanks much and 73,
ben, kd5byb

From jmac6235 at yahoo.com Sat Mar 29 12:29:04 2014
From: jmac6235 at yahoo.com (John Macaulay)
Date: Sat, 29 Mar 2014 12:29:04 -0400
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <5336E040.5090802@kd5byb.net>
References: <5336E040.5090802@kd5byb.net>
Message-ID: <52F0F35B-8EBE-4BA8-BB58-E699732DDA6D@yahoo.com>

Thanks Ben.

That is a great review of caps for BAs. Being backed up with actual model types and data makes it even more worthwhile.

Thanks and 73

Mac MacAulay
WQ8U
Sent from my iPhone

> On Mar 29, 2014, at 11:01 AM, Ben Hall <kd5byb at kd5byb.net> wrote:

>

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>

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>
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>
> I'll let folks know how they work out.
>
> thanks much and 73,
> ben, kd5byb
> -----
> BoatAnchors mailing list
> BoatAnchors at theporch.com
> <https://minime.theporch.com/mailman/listinfo/boatanchors>

From gumbear at pacbell.net Sat Mar 29 15:26:36 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 29 Mar 2014 12:26:36 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <5336E040.5090802@kd5byb.net>
References: <5336E040.5090802@kd5byb.net>
Message-ID: <1DE74BFB66A94AB48BE7D7D1481C807F@KB6NAX>

Hi Ben,

There is, in general, a fundamental reason the AC voltage rating is lower than the equivalent voltage DC rating. As a capacitor charges and discharges it experiences the effects of the changing voltage. Constantly varying and/or polarity reversing AC voltage causes electromechanical distortion of the insulation, which by the way, produces the acoustic signature of a capacitor, which if enough energy is being handled by a capacitor, can be heard with a stethoscope. Obviously large capacitors handling large currents can be heard with your ears (if the jokers looking over your shoulder can shut up for a bit). ;-) All that internal flexing of the capacitor produces heat in addition to the heat produced by the resistive losses from the fluctuating current. A DC service capacitor suffers less from these effects except when being subjected to high filtering peak currents. Thus the difference in AC and DC ratings. The practical approach is to derate a capacitor that has to work harder for a living.

By paralleling several smaller capacitors to achieve an equivalent ripple current rating you gain the advantage of more exposed surface area to improve heat dissipation.

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

>searching around the web, I did find some motor-run capacitors that were dual rated. A typical rating would be 440VAC / 1000VDC. This is considerably more than the RMS to peak rating discussed in the previous paragraph. While I have *not* found a reason for this discrepancy, I figure that this is headroom for spikes and other nastiness found on the AC mains, while the DC rating is just that - a DC rating.

From 1oldlens1 at ix.netcom.com Sat Mar 29 14:39:55 2014
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 29 Mar 2014 11:39:55 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
References: <5336E040.5090802@kd5byb.net>
Message-ID: <1E06516081E9430EBEF08E37A7963823@VALUED20606295>

----- Original Message -----

From: "Ben Hall" <kd5byb at kd5byb.net>
To: "Old Tube Radios" <boatanchors at theporch.com>
Sent: Saturday, March 29, 2014 8:01 AM
Subject: [BoatAnchors] Thoughts on Filtering Capacitors

> Good morning all,
>
> A couple of months ago, I shared several photos of a AC
> board adapter that would hold thru-hole electrolytic
> capacitors to replace a failed multi-section electrolytic
> capacitor.
>

This is extremely interesting. As you know oil-filled paper caps were the standard for high voltage and also where very low leakage caps were needed at higher values than were practical with mica caps. Its very useful to know that relatively high voltage film caps of large value are available at what I consider quite reasonable prices. I think there are many applications, particularly in transmitters where these caps would prove very useful and good replacements for old electrolytics. Paper caps were sometimes used as filter caps but generally could not be obtained at high enough values. An example is the RCA AR-88 receiver, which has no elecroltytic caps in it. The filter cap is a triple oil filled paper unit of 4 uf per section at

something like 450 volts. The caps in mine are still good but eventually would need to be replaced. RCA used electrolytics in the last versions of this receiver but I think they were after very high reliability in the earlier ones.

What I can't find out is how good smaller film caps are for RF. The popular wisdom is that silvered mica or ceramic caps are the best but from a few clues I've found in data sheets, and the actual performance of film caps in old receivers, it seems that they may actually be very good. I have been unable to find any actual data. Most of the RF data for ceramic caps is for surface mount units for microwave frequencies. I am concerned with performance up to perhaps 100 Mhz. Does anyone have a source of actual knowledge, not anecdotal stuff.

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From 1oldlens1 at ix.netcom.com Sat Mar 29 16:00:06 2014
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 29 Mar 2014 13:00:06 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
References: <5336E040.5090802@kd5byb.net>
<1DE74BFB66A94AB48BE7D7D1481C807F@KB6NAX>
Message-ID: <9E49A6D4894C4487BF47853593D0AF1E@VALUED20606295>

----- Original Message -----

From: "Arden Allen" <gumbear at pacbell.net>
To: "Ben Hall" <kd5byb at kd5byb.net>; "Old Tube Radios"
<boatanchors at theporch.com>
Sent: Saturday, March 29, 2014 12:26 PM
Subject: Re: [BoatAnchors] Thoughts on Filtering Capacitors

> Hi Ben,

>

> There is, in general, a fundamental reason the AC voltage
> rating is lower than the equivalent voltage DC rating. As
> a capacitor charges and discharges it experiences the
> effects of the changing voltage. Constantly varying

> and/or polarity reversing AC voltage causes
> electromechanical distortion of the insulation, which by
> the way, produces the acoustic signature of a capacitor,
> which if enough energy is being handled by a capacitor,
> can be heard with a stethoscope.

Many years ago I was on a tour of the Western terminal of the Pacific Intertie, I don't think you could get in now. At one point I was out in the yard when a bank of capacitors was switched in. It was like a cannon going off. Remember, capacitors work just like condenser loudspeakers, then they are charged the plates move and in a large, high energy cap, can move a lot. This is different than the piezo-electric effect of ceramic caps where the mechanical energy comes from the dielectric, this is from the electrodes.

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From 4cx250b at miamioh.edu Fri Mar 28 17:45:55 2014
From: 4cx250b at miamioh.edu (Jim Garland)
Date: Fri, 28 Mar 2014 15:45:55 -0600
Subject: [BoatAnchors] Adjust panel meter question
Message-ID: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>

Hi gang,

I was rummaging through my panel meter box and came across a Bird 43 panel meter with a 30uA movement. Have no idea where I got it, but in trying it out on my bench, I see the zero drifts when I tilt the meter, and also the full scale calibration is somewhat position dependent. The needle isn't sticking. I recall reading somewhere how to adjust the bearings to find a gravity-independent balance, but can't remember where I saw it. Can anybody help me out?

Tnx and 73,

Jim W8ZR

From rbsingl at ilstu.edu Sat Mar 29 13:08:07 2014

From: rbsingl at ilstu.edu (Singley, Rodger)
Date: Sat, 29 Mar 2014 17:08:07 +0000
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <5336E040.5090802@kd5byb.net>
References: <5336E040.5090802@kd5byb.net>
Message-ID: <0DEBF1C8D8437248BE53CD4213B89BD322F66C60@ISUEMBX02.ad.ilstu.edu>

Ben,

Thanks for the very thorough discussion of your findings!

The motor run capacitors will sometimes fail like electrolytic... blowing their guts out. Several years ago I was using my planer to dimension some hard maple and I heard a "thunk" from the dust collector. My first thought was a small chunk of wood from one of the other tools had been sucked through the collector making the noise but then I saw smoke streaming from the dust collector area and found my motor run capacitor was now a 2 piece unit. Although the smoke was momentarily startling the mess wasn't any worse than an electrolytic that had vented. These capacitors take a beating both in terms of heat from the motor (this capacitor was mounted to a TEFC 2HP 240V motor) and AC operation plus line spikes so one would expect they would last a long time in filter service.

Rodger WQ9E

Dr. Rodger B. Singley
Professor of Marketing

> -----Original Message-----
> From: BoatAnchors [mailto:boatanchors-bounces at theporch.com] On Behalf
> Of Ben Hall
> Sent: Saturday, March 29, 2014 10:01 AM
> To: Old Tube Radios
> Subject: [BoatAnchors] Thoughts on Filtering Capacitors

From spr at earthlink.net Sat Mar 29 11:28:50 2014
From: spr at earthlink.net (Scott Robinson)
Date: Sat, 29 Mar 2014 08:28:50 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <5336E040.5090802@kd5byb.net>
References: <5336E040.5090802@kd5byb.net>
Message-ID: <5336E6B2.5080301@earthlink.net>

and Scott comments:

The ripple current is by far the greatest in the input filter cap, the

one connected to the rectifier filament or cathode. That's the only one I'd worry about, and I use Wima 10 uF 600V parts for that duty; they cost me \$5 each from Mouser. In an AC-DC set you'd only need a 200V rated part, but more capacitance, probalby 33 uF.

Regards,

Scott

On 3/29/14 8:01 AM, Ben Hall wrote:

> Good morning all,
>
> A couple of months ago, I shared several photos of a AC board adapter
> that would hold thru-hole electrolytic capacitors to replace a failed
> multi-section electrolytic capacitor.
>
> Several of the many responses noted that an issue with modern
> electrolytics is that the ripple current rating / equivalent series
> resistance (ESR) could be exceeded in boatanchor filter capacitor service.
>

From knjhanlon at msn.com Sat Mar 29 18:25:27 2014
From: knjhanlon at msn.com (JAMES HANLON)
Date: Sat, 29 Mar 2014 16:25:27 -0600
Subject: [BoatAnchors] Crystal Filter adjustment procedures
Message-ID: <BLU184-W7411B438FF15099B569C17A0610@phx.gbl>

Folks,

I'm involved in a discussion with the Editor and the Senior Assistant Technical Editor of QST and the author about the article published in the April issue of QST, "Crystal Phasing." I've tried the procedure outlined in the article under "Adjusting the Crystal Resonator Filter," and I've not been able to make it work. I've written up an alternate procedure that I believe will work on any receiver of any make that uses a vintage crystal filter.

I need some volunteers to try both procedures. It is entirely possible that I'm mistaken about the QST procedure, and I'd like to know that if I am. I'd also like to know if my procedure works, and I'd appreciate suggestions about how to make it better. It may eventually show up as a Technical Note in QST if the folks there can be convinced that there is a problem with the one that they published.

If you have a receiver with a vintage crystal filter, any make, and you would be willing to spend a little time trying out these two procedures, please let me know. I will respond with an email containing a copy of the QST article and a copy of my proposed procedure. I will report your results, whatever they may be, to the folks at QST.

Thanks very much,

Jim Hanlon, W8KGI

From gumbear at pacbell.net Sat Mar 29 18:54:51 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 29 Mar 2014 15:54:51 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <1E06516081E9430EBEF08E37A7963823@VALUED20606295>
References: <5336E040.5090802@kd5byb.net>
<1E06516081E9430EBEF08E37A7963823@VALUED20606295>
Message-ID: <875D733F2F4243958E1DD1BAB3C4B3B8@KB6NAX>

Rich, nobody who makes capacitors wants to be known for making caps with high series inductance. The inductance inherent in wound film/foil construction is minimized by overlapping the foils at the ends and crushing them together as part of the lead attachment mechanism. Also metal spray is used to do the same thing.

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

>The popular wisdom is that silvered mica or ceramic caps are the best but from a few clues I've found in data sheets, and the actual performance of film caps in old receivers, it seems that they may actually be very good.

From k1lky68 at gmail.com Sat Mar 29 19:00:09 2014
From: k1lky68 at gmail.com (Roy Morgan)
Date: Sat, 29 Mar 2014 19:00:09 -0400
Subject: [BoatAnchors] Adjust panel meter question
In-Reply-To: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
References: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
Message-ID: <C1C13D83-0703-4EE3-A2E4-921141F1A6C8@gmail.com>

On Mar 28, 2014, at 5:45 PM, Jim Garland <4cx250b at miamioh.edu> wrote:

> Hi gang,

>

> I was rummaging through my panel meter box and came across a Bird 43 panel

> meter with a 30uA movement. Have no idea where I got it, but in trying it
> out on my bench, I see the zero drifts when I tilt the meter, and also the
> full scale calibration is somewhat position dependent. The needle isn't
> sticking. I recall reading somewhere how to adjust the bearings to find a
> gravity-independent balance, but can't remember where I saw it. Can anybody
> help me out?

Jim,

It may not be the bearings that you have to adjust. Meter adjustment is not very difficult but it is delicate work. Meter *repair* is even more delicate and needs special tools and materials.

Note that a 30 microamp movement is apt to have very delicate parts. Rummage through your meter box for a busted up meter of higher current rating to practise on as follows:

Normally there are three little arms sticking out from the needle at its base right at the pivot - at the end of the armature that rests in the front pivot. One is opposite the needle and two are at right angle to it. Often these things are made as part of the needle itself and you can see them move along with the needle. They have little spiral springs on them, each spring having a curve to hold it in place on its arm.

Hold the meter so the pivots are horizontal front and back from you (meter face vertical), and the needle is horizontal, zero to the left, then horizontal the other way, zero to the right. If the needle does not rest at the same place both times, you need to adjust the weight on the arm opposite the needle. Thinking carefully will help you move it in the right direction. VERY careful work with tweezers or a special tool will make it possible.

Then hold the meter with the needle straight up vertical, then with it straight down vertical. Make adjustments as before to one or both of the side weights.

Watchmakers tweezers will help you decide if the pivots and their seats are too tight (meter likely sticks) or too loose (needle rattles around, or maybe even has come out of its pivot seats and is stuck off center). Adjusting pivot clearance involves unfastening the pivot and its locking nut, adjusting and then testing again. The locking nut and pivot may well be sealed with some thing like airplane glue (Testors). Try a solvent or two - these parts cannot stand much force as you try to free them. Some meters have a self-locking system where a bent washer provides locking/holding force. The rear pivot may be more adjustable than the front one. Look front and back to decide. Watchmakers loupe or VisoFlex magnifiers help a LOT in seeing what you are dealing with.

I think we should NOT put any watch oil on meter pivots, unlike the pivots in a pocket watch which to get oiled.

There are normally two spiral springs that work in opposition to hold the needle at its zero resting place, one up front and one in back. The front one is usually fitted with an adjuster that engages that little adjustment thing in the meter glass. If the meter shows the wrong sensitivity - e.g. reads full scale with less than the specified amount of current, you need to tighten both spiral springs just a bit, reset zero, and retest. Vice versa. If the adjuster of the front pivot winds up at one end of its range, see if the other end of the spring can be adjusted some how. Or, check the spring at the back of the movement to see if that one can be adjusted.

If the little post sticking out of the adjuster mounted in the meter glass is broken, look in the case for it, or stand by to replace it. TEENSY drill, patience and luck, with a bit of wire or phenolic will allow you to glue a new piece in place.

Carefully re-case the meter so the little teensy pin enters the slot of the mechanical zero adjust without either deforming the arm, or breaking the pin. The pin can often enter the arm either close to the pivot or 180 degrees from that, away from the pivot. This last position will give you easier adjusting, the first one gives you greater range of adjustment. Many meters allow you to move the mechanical zero adjust full circle to get one or the other arrangement. Frequently seen advice is to move the meter pointer to zero and then back up the mechanical zero adjust thing a bit to free it from the edges of the slot in the arm. This avoids temperature or vibrations from changing the zero set point.

Good luck

Roy Morgan
RoyMorgan at alum.mit.edu
K1LK Y Since 1958

From donreaves at gmail.com Sat Mar 29 21:03:58 2014
From: donreaves at gmail.com (Don Reaves)
Date: Sat, 29 Mar 2014 20:03:58 -0500
Subject: [BoatAnchors] Adjust panel meter question
In-Reply-To: <C1C13D83-0703-4EE3-A2E4-921141F1A6C8@gmail.com>
References: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
<C1C13D83-0703-4EE3-A2E4-921141F1A6C8@gmail.com>
Message-ID: <CAEj02LbArjhD8nyPNHPftNVMvDCgTaw4nvRSoeTOM9dNTnpEmA@mail.gmail.com>

And if you are over 40, consumed more than 1 cup of coffee in the last 10 years, and wear bifocals, forget it.

<chuckle>

--

Don Reaves W50R

From gumbear at pacbell.net Sat Mar 29 21:57:58 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Sat, 29 Mar 2014 18:57:58 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
In-Reply-To: <1FE80358B1F2436EAC5DB04D19F1AC3A@VALUED20606295>
References: <5336E040.5090802@kd5byb.net>
<1E06516081E9430EBEF08E37A7963823@VALUED20606295>
<875D733F2F4243958E1DD1BAB3C4B3B8@KB6NAX>
<1FE80358B1F2436EAC5DB04D19F1AC3A@VALUED20606295>
Message-ID: <985CBCBA20404C0DA7EB60D96DD64F4F@KB6NAX>

>I am also not quite sure how to measure self
inductance. All this was left out of my electronics
classes a million years ago.

Those were the days when we had a high regard for education. Now schools
are just mills for profiteers - take the money and push 'em out the door.
You think you had it bad, we are increasingly becoming a nation of
know-nothings and breaking our arms patting ourselves on the back for it.
That's the variant of KISS, Keep is Simple and be Stupid.

Arden Allen

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

From w8au at sssnet.com Sun Mar 30 01:13:12 2014
From: w8au at sssnet.com (w8au at sssnet.com)
Date: Sun, 30 Mar 2014 01:13:12 -0400
Subject: [BoatAnchors] Adjust panel meter question
In-Reply-To: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
References: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
Message-ID: <mailman.1710.1396156364.241.boatanchors@theporch.com>

At 05:45 PM 3/28/2014, Jim Garland wrote:

>I was rummaging through my panel meter box and came across a Bird 43 panel
>meter with a 30uA movement. Have no idea where I got it, but in trying it
>out on my bench, I see the zero drifts when I tilt the meter, and also the
>full scale calibration is somewhat position dependent. The needle isn't
>sticking. I recall reading somewhere how to adjust the bearings to find a

>gravity-independent balance, but can't remember where I saw it. Can anybody
>help me out?

Jim: I can't direct you to a text, but decades ago, when in the Aerospace industry, as a member of the Standards and Calibration lab, I initially had the duty of meter repair and calibration.

If the meter you have is of the D'Arsonval type, lay the meter on it's back and adjust for zero. In this position balance is not a factor. Now after you remove the internal meter from it's case, you see the horizontal balancing pins. You begin by, say, turning the meter 45 degrees to the right. If the needle goes up, you move the left side small weight outward until the needle no longer moves. If it moves lower, move the weight inward to get the same result. Then you tilt the meter to the left 45 degrees and do the same thing to it, using the right side weight.

You will have to repeat these movements to see if this process needs repeated.

As for full-scale calibration (in which all meters are rated), you need a calibrated voltage or using a higher calibrated voltage with a resistance decade divider. We used to use the Fluke Differential voltmeters for this purpose. Once you check for full scale accuracy you can then rate your meter as having a "percentage" accuracy figure.

Now, if the meter is a taut-band type, then you're on your own. :-)
I was out of that duty by the time those types came along.

Have fun...

Perry w8au

From arc5 at ix.netcom.com Sun Mar 30 10:55:03 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Sun, 30 Mar 2014 09:55:03 -0500
Subject: [BoatAnchors] ***JUNK MAIL*** Hallicrafters and A-Bombs (Hello, NSA and HSA!)
Message-ID: <09A9560CF5B946EF89D0285F8848857C@DaddyPC>

A friend sent me this link of photos from the preparations to drop Little Boy and Fatman.
Fifth photo down shows a rack of equipment used to test Little Boy. At the top is a Hallicrafters set.

Wonder why? Sure wish I had a hi-rez of this one,
but I supposed it will be buried in some senseless
"Top Secret" (Hello again, NSA!) archive
until Judgment Day.

73 DE Dave AB5S

From arc5 at ix.netcom.com Sun Mar 30 11:01:05 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Sun, 30 Mar 2014 10:01:05 -0500
Subject: [BoatAnchors] Hallicrafters and A-Bombs (Hello, NSA and HSA!)
In-Reply-To: <09A9560CF5B946EF89D0285F8848857C@DaddyPC>
References: <09A9560CF5B946EF89D0285F8848857C@DaddyPC>
Message-ID: <C2ABB0A7253E4F10B34F81F89257D13B@DaddyPC>

I guess it would work better with the link:

http://www.alternatewars.com/Bomb_Loading/Bomb_Guide.htm

The receiver is an S-36, so likely to listen to the altimeter
transmittters.

From 1oldlens1 at ix.netcom.com Sat Mar 29 19:18:06 2014
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 29 Mar 2014 16:18:06 -0700
Subject: [BoatAnchors] Adjust panel meter question
References: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
Message-ID: <692C56A7E94F4CB59509C767DC7338C6@VALUED20606295>

----- Original Message -----

From: "Jim Garland" <4cx250b at miamioh.edu>
To: <boatanchors at theporch.com>
Sent: Friday, March 28, 2014 2:45 PM
Subject: [BoatAnchors] Adjust panel meter question

> Hi gang,
>
> I was rummaging through my panel meter box and came across
> a Bird 43 panel
> meter with a 30uA movement. Have no idea where I got it,
> but in trying it
> out on my bench, I see the zero drifts when I tilt the

> meter, and also the
> full scale calibration is somewhat position dependent. The
> needle isn't
> sticking. I recall reading somewhere how to adjust the
> bearings to find a
> gravity-independent balance, but can't remember where I
> saw it. Can anybody
> help me out?
>
> Tnx and 73,
>
> Jim W8ZR
>

I don't know where this article is but suggest you look at the AVO handbooks on BAMA. AVO has quite a bit of repair instruction in them.

Most conventional meters have a couple of counterweights for the pointer. These are often coils of wire wound around the bottom stub of the pointer. there are often more than one. Also, if you look at the way the zero adjustment works you will find it slides the entire spiral spring at the front. You will find that the rear spring will also slide. I don't know how all these adjustments were done at the factory but when they are right the zero position of the meter should be independant of its position. I have managed to adjust a couple of meters but it was done by guess. I think the relative tension of front and back springs must also affect the scale tracking. I have seen meters that specified the position they had to be read in so not all are balanced. The bearing adjustment should not affect the balance but should be just tight enough to prevent play in the bearing. There should be no drag. I don't know if this is helpful. Also, taught-band meters also usually have some form of tension adjustment front and back. This may be in the form of a bendable tab. They often do not have zero adjustments. The taught band meter is suspended by stretched ribbons of spring material at front and back. The ribbon acts as a torque spring. The idea is to eliminate drag and hysteresis in the usual pin bearing. Also, the mechanism is cheaper to make. Taught band meters can be repaired as long as the ribbon has not broken.

I also wish there as a good book on meter repair.

--

Richard Knoppow
Los Angeles
WB6KBL

dickburk at ix.netcom.com

From 1oldlens1 at ix.netcom.com Sat Mar 29 19:27:45 2014
From: 1oldlens1 at ix.netcom.com (Richard Knoppow)
Date: Sat, 29 Mar 2014 16:27:45 -0700
Subject: [BoatAnchors] Thoughts on Filtering Capacitors
References: <5336E040.5090802@kd5byb.net>
<1E06516081E9430EBEF08E37A7963823@VALUED20606295>
<875D733F2F4243958E1DD1BAB3C4B3B8@KB6NAX>
Message-ID: <1FE80358B1F2436EAC5DB04D19F1AC3A@VALUED20606295>

----- Original Message -----

From: "Arden Allen" <gumbear at pacbell.net>
To: "Richard Knoppow" <1oldlens1 at ix.netcom.com>; "Ben Hall"
<kd5byb at kd5byb.net>; "Old Tube Radios"
<boatanchors at theporch.com>
Sent: Saturday, March 29, 2014 3:54 PM
Subject: Re: [BoatAnchors] Thoughts on Filtering Capacitors

> Rich, nobody who makes capacitors wants to be known for
> making caps with high series inductance. The inductance
> inherent in wound film/foil construction is minimized by
> overlapping the foils at the ends and crushing them
> together as part of the lead attachment mechanism. Also
> metal spray is used to do the same thing.
>
> Arden Allen
> KB6NAX

The question has to do with both self inductance and dielectric loss. From what I can find some types of film caps have very low dielectric loss, right in there with mica and ceramics. The question is whether they are as suitable as RF coupling and by-pass caps. Usually, RF coupling caps are quite low in value so there is no problem using mica. The question I have is whether film caps are equal to ceramics in by-pass use. Modern film caps such as polypropylene, may actually have lower loss at low frequencies, at least compared to Class-2 ceramics. I just can't find anything definite and the advice I've seen is mostly anecdotal (I used ---- and they were better than ###). I am also not quite sure how to measure self inductance. All this was left out of my electronics cleasses a million years ago.

--

Richard Knoppow
Los Angeles
WB6KBL
dickburk at ix.netcom.com

From gumbear at pacbell.net Mon Mar 31 01:46:47 2014
From: gumbear at pacbell.net (Arden Allen)
Date: Sun, 30 Mar 2014 22:46:47 -0700
Subject: [BoatAnchors] Adjust panel meter question
In-Reply-To: <692C56A7E94F4CB59509C767DC7338C6@VALUED20606295>
References: <166662E0C75E4AD0871AD3D94FD4275F@WORKSHOP>
<692C56A7E94F4CB59509C767DC7338C6@VALUED20606295>
Message-ID: <F49D7F3A82E24939BF0DEF9C821BDAD@KB6NAX>

As one spring unwinds the other winds up, the non-linearity's cancel. The amount of tension put in the springs sets the span. Taut band movements are inherently linear, more rugged, cheaper to make, and need little adjustment more than zeroing the pointer.

Arden Allen
KB6NAX

Adopt a shelter or rescue dog
and make a friend for life =:-)

>I think the relative tension of front and back
springs must also affect the scale tracking.

From arc5 at ix.netcom.com Mon Mar 31 10:06:00 2014
From: arc5 at ix.netcom.com (David Stinson)
Date: Mon, 31 Mar 2014 09:06:00 -0500
Subject: [BoatAnchors] WWII, Germany and Their 170 KC C.D. Net
Message-ID: <ACEC4DD108A7487E91884214C5075FDF@DaddyPC>

I found this in the Nov-Dec 1954 issue of "G-E Ham News:"

"During the last war the enemy had a CD communication system..... the number of stations on this net was amazing. The area covered was massive- from the Channel to the Baltic in the north, along the Russian Front, south to Italy, along the Mediterranean and all the land in between.

... operation took place on Long Wave, down around 170 KCs. The operators were good, the discipline rigid and unauthorized transmissions were nil. All transmissions were coded... not for security, but for speed....."

This network was very active with Civil Defense-type traffic- requests for fire fighting, medical aid etc. Mode was CW. The piece makes it sound far more effective and active than our CD nets at that time.

Those of you with contacts in Germany-
Does any technical data about this net still exist?
Is anyone still alive who knew of it?
My major interest is in the antennas used to make this Long wave network so successful.

73 DE Dave AB5S